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ACT PRACTICE – QUIZ – MR. ARBO

1. Which of the following is a simplified expression equal to (9 - x2) / (x - 3) for all x < –3 ?

A. 3x

B. x + 3

C. x – 3

D. –x + 3

E. –x – 3

2. Doctors use the term maximum heart rate (MHR) when referring to the quantity found by starting with 220 beats per minute and subtracting 1 beat per minute for each year of a person’s age. Doctors recommend exercising 3 or 4 times each week for at least 20 minutes with your heart rate increased from its resting heart rate (RHR) to its training heart rate (THR), where

THR = RHR + .65(MHR – RHR)

Which of the following is closest to the THR of a 43-year-old person whose RHR is 54 beats per minute?

A. 197

B. 169

C. 162

D. 134

E. 80

3. When getting into shape by exercising, the subject’s maximum recommended number of heartbeats per minute (h) can be determined by subtracting the subject’s age (a) from 220 and then taking 75% of that value. This relation is expressed by which of the following formulas?

A. h = .75(220 – a)

B. h = .75(220) – a

C. h = 220 – .75a

D. .75h = 220 – a

E. 220 = .75(h – a)

4. An airplane flew for 8 hours at an airspeed of x miles per hour (mph), and for 7 more hours at 325 mph. If the average airspeed for the entire flight was 350 mph, which of the following equations could be used to find x ?

A. x + 325 = 2(350)

B. x + 7(325) = 15(350)

C. 8x – 7(325) = 350

D. 8x + 7(325) = 2(350)

E. 8x + 7(325) = 15(350)

5. Which of the following is equivalent to 3a + 4b – (–6a – 3b) ?

A. 16ab

B. –3a + b

C. –3a + 7b

D. 9a + b

E. 9a + 7b

6. What is the sum of the polynomials 3a2b + 2a2b2 and –ab2 + a2b2 ?

A. 3a2b – ab2 + 3a2b2

B. 3a2b – ab2 + 2a2b2

C. 2a2b + 3a2b2

D. 2a2b3 + 2a4b4

E. –3a3b3 + 2a4b

7. Which of the following is a factor of the polynomial x2 – x – 20 ?

A. x – 5

B. x – 4

C. x + 2

D. x + 5

E. x + 10

8. Which of the following is a factor of x2 – 5x – 6 ?

A. (x + 2)

B. (x – 6)

C. (x – 3)

D. (x – 2)

E. (x – 1)

9. If 2(x – 5) = –11, then x = ?

A. –2/12

B. –8

C. –1/12

D. –3

E. –1/2

10. What is the slope of the line with the equation 2x + 3y + 6 = 0 ?

A. –6

B. –3

C. –2

D. –2/3

E. 2/3

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